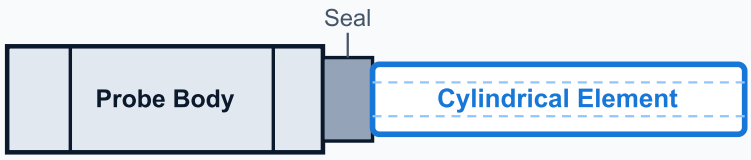
Electrical Resistance (ER) Element Selection Guide

Select the optimal Electrical Resistance (ER) probe element based on system velocity, mechanical strength, thermal stability, and required probe life for accurate real-time corrosion monitoring.

1. Cylindrical Element — Standard



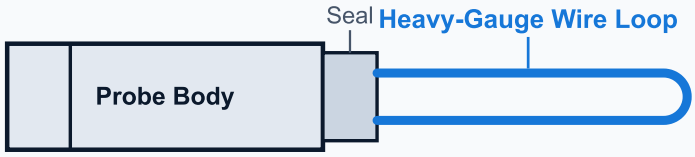
All-Welded / Glass Seal
High Mechanical Strength

- Good general-purpose element for standard applications.
- Excellent mechanical strength and thermal stability.
- Flow shield may be required for high-velocity systems.

Seal Materials: All Welded (Standard) or Glass

Element ID	Thickness	Useful Probe Life
CT5	5 mil	2.5 mil
CT10	10 mil	5 mil
CT20	20 mil	10 mil
CT50	50 mil	25 mil

2. Wire Loop Element — High Velocity



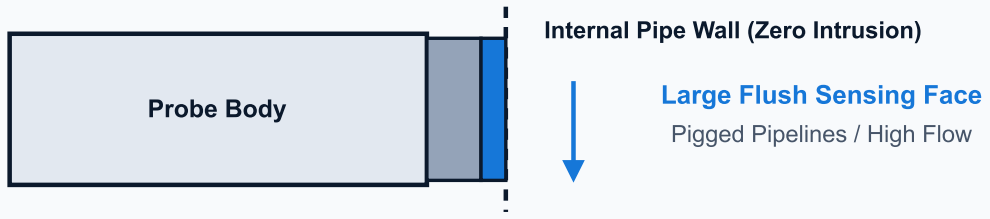
40 mil / 80 mil Wire
High Velocity & Versatility

- Good general-purpose element with high versatility.
- Good mechanical strength and thermal stability.
- Flow shield may be required for high-velocity systems.

Seal Materials: Glass (Standard), Epoxy, or Teflon

Element ID	Thickness	Useful Probe Life
WR40	40 mil	10 mil
WR80	80 mil	20 mil

3. Large Flush Element — Flush Mount

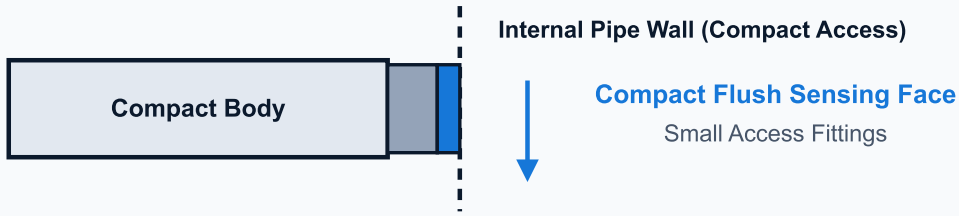


- Ideal for pigged pipelines or high-velocity systems where flow intrusion is not permitted.
- Preferred over Small Flush due to superior thermal stability.
- Excellent mechanical strength and thermal stability.

Seal Materials: Epoxy (Standard) or Ryton

Element ID	Thickness	Useful Probe Life
FL10	10 mil	5 mil
FL20	20 mil	10 mil
FL40	40 mil	20 mil

4. Small Flush Element — Compact Flush

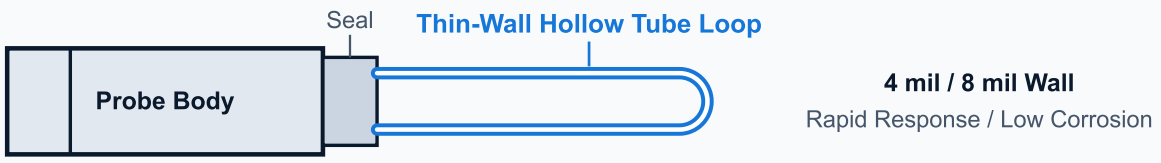


- Ideal for pigged pipelines or high-velocity systems.
- Typically used when access point is too small for Large Flush.
- Excellent mechanical strength and good thermal stability.

Seal Materials: Epoxy

Element ID	Thickness	Useful Probe Life
FS04	4 mil	2 mil
FS08	8 mil	4 mil
FS20	20 mil	10 mil

5. Tube Loop Element — High Sensitivity



- Thinner element provides higher sensitivity but can be delicate.
- Typically used for low-corrosion systems requiring rapid response.
- Moderate mechanical strength and good thermal stability.
- Flow shield is recommended for high-flow applications.

Seal Materials: Glass (Standard), Epoxy, or Teflon

Element ID	Thickness	Useful Probe Life
TU04	4 mil	2 mil
TU08	8 mil	4 mil